

ASAP

split into 3
08/01/14

Monday, 1/7/2008 11:13:11 AM
Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : SINGLE MIRROR ASSEMBLY
Job Number : 36587	
Estimate Number : 12277	
P.O. Number :	Part Number : D206558041
This Issue : 1/7/2008 S.O. No. :	Drawing Number : D206-558 / D2065
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : MACHINED PARTS	Drawing Revision : C / B1
Previous Run : 34356	Material :
Written By :	Due Date : 1/14/2008 Qty: 10 Um: Each
Checked & Approved By : <u>08.01.07</u>	
Comment : Est. F 02.09.19 Re-format; Incorporated D2065 KJ	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D206-558-041 CHG005

08/02/11

2.0

M304TR0500W035

304 RD Tube .500 x .035W



Comment: Qty.: 1.7500 f(s)/Unit Total : 17.5004 f(s)

304 RD Tube .500 x .035W

304/316 SS Seamless Tube (Ref QSI 017 4.1.1.2) as per Dwg D2065 using punch Jig DT8012

(M04TR0.500W035)

Identify as D2065.

Note: 1 end only

Batch M106593

08/01/07

3.0

BRAKE NC

NC BRAKE



Comment: NC BRAKE

Punch 1/2" OD x .035 " Wall AISI

08/01/07

4.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Cut to length as per Dwg D2065

Bend as per Dwg D2065 and template D2065T1

Flatten the end on Hydraulic press using Dt 8545

Drill 00.188" holes as per Dwg D2065 and template D2065 T1 and using Dt 8768 Drill Jig.

Deburr.

mf 08-01-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 1/7/2008 11:13:11 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SINGLE MIRROR ASSEMBLY

Job Number: 36587

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5 08/01/08 (+12)

6.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Black Sandtex (Ref: 4.3.5.7) as per QSI 005 4.3

BR 08-01-11

(12)

7.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

M-L 08/01/11 (12x)

8.0

D2011101

Mirror 6"



Comment: Qty.: 1.0000 Each(s)/Unit Total: 10.0000 Each(s)

Mirror 6"

Pick:

Qty Part Number Description Batch

1 D2011-101 Mirror

B35536

SP

9.0

D2052

Bracket



Comment: Qty.: 2.0000 Each(s)/Unit Total: 20.0000 Each(s)

Bracket

Pick:

Qty Part Number Description Batch

2 D2052 Bracket

B217500

SP

10.0

D2054

Bushing - Delrin



Comment: Qty.: 2.0000 Each(s)/Unit Total: 20.0000 Each(s)

Bushing - Delrin

Pick:

Qty Part Number Description Batch

2 D2054 Bushing

B231219

SP

11.0

D2055

Clamp



Comment: Qty.: 1.0000 Each(s)/Unit Total: 10.0000 Each(s)

Clamp

Pick:

Qty Part Number Description Batch

B34365 (1)

8/1/11 SP (12x)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 1/7/2008 11:13:11 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SINGLE MIRROR ASSEMBLY

Job Number: 36587

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

1 D2055 Clamp

12.0

D2056

Bell Crank Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s)

Bell Crank Assembly

Pick:

Qty Part Number Description Batch

1 D2056 Bellcrank

1331220

SP

13.0

D2057

Plug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s)

Plug

Pick:

Qty Part Number Description Batch

1 D2057 Plug

1334366

SP

14.0

AN960JD10

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 40.0000 Each(s)

Washer

Pick:

Qty Part Number Description Batch

4 AN960JD10 Washer

*
M105792

SP

15.0

MS21042L3

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 20.0000 Each(s)

Nut

Pick:

Qty Part Number Description Batch

2 MS21042L3 Nut
or MS21042-3

M105558

SP

16.0

MS27039118

Screw



Comment: Qty.: 2.0000 Each(s)/Unit Total : 20.0000 Each(s)

Screw

Pick:

Qty Part Number Description Batch

2 MS27039-1-18 Screw

M102339

8/1/11 SP

(12X)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SINGLE MIRROR ASSEMBLY

Job Number: 36587

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1
Assemble as per Dwg D206-558

mf 08-02-04 (1)

18.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/02/04 (41)

19.0

D2053

Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s)

Bracket

Pick: Packing Kit

Qty Part Number

Description Batch

1 D2053

Bracket

1750

Lu

20.0

D2067

Connector



Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s)

Connector

Pick: Packing Kit

Qty Part Number

Description Batch

1 D2067

Connector

36622

Lu

21.0

D2071

Cable Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s)

Cable Assembly

Pick: Packing Kit

Qty Part Number

Description Batch

1 D2071

Cable

35366

Lu

22.0

AN34A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 40.0000 Each(s)

Bolt

Pick: Packing Kit

Qty Part Number

Description Batch

4 AN3-4A

Bolt

3641

Lu 8/2/14 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SINGLE MIRROR ASSEMBLY

Job Number: 36587

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

23.0

AN5261032R9

Screw



Comment: Qty.: 4.0000 Each(s)/Unit Total : 40.0000 Each(s)

Screw

Pick: Packing Kit

Qty Part Number Description Batch

4 AN526-1032R9 Screw

or AN526C1032R9

ML1189

24.0

MS21042L3

Nut



Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s)

Nut

Batch: ML25558

25.0

AN960JD10L

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 40.0000 Each(s)

Washer

Pick: Packing Kit

Qty Part Number Description Batch

4 AN960JD10L Washer

ML4374

26.0

MS21919DG5

Clamp



Comment: Qty.: 2.0000 Each(s)/Unit Total : 20.0000 Each(s)

Clamp

Pick: Packing Kit

Qty Part Number Description Batch

2 MS21919DG5Clamp

or MS21919WDG5

ML7864

27.0

MS354899

Grommet



Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s)

Grommet

Pick: Packing Kit

Qty Part Number Description Batch

1 MS35489-9 Grommet

B9619

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: PD Date: 28/02/12
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 1/7/2008 11:13:11 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SINGLE MIRROR ASSEMBLY

Job Number: 36587

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

28.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

8/2/11 (4C)

29.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock
Location: F

8/2/11 SQ

(17)

30.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

8/2/11 (1)

Job Completion



mi 2008/2/11

(1)

W

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

3.0 CARGO MIRROR INSTALLATION

Install the Cargo Mirror as follows:

1. Install D206-558-041/-043 cargo mirror assembly using AN3-4A bolts and AN960JD10L washers. Pickup existing anchor nuts in 4 places.
2. Install D2067 connector onto D2056 bellcrank assembly to locate hole for MS35489-9 grommet. With the mirror in the deployed position, mark and drill $\varnothing 0.125$ " (3.2mm) hole in landing light window panel where the grommet should be located. Open pilot hole to $\varnothing 0.563$ " (14.3mm). Install grommet.
3. Install D2053 bracket using AN526-1032R9 screws. Pickup on existing anchor nuts.
4. Position D2071 cable as shown. Install MS21919DG5 clamps using AN526-1032R9 screws where required. Pickup existing rivnuts or anchor nuts if available.
5. Install D2071 control cable using D2067 connector. Connector should rotate freely in bellcrank when MS21042-3 nut is torqued and cable clamped

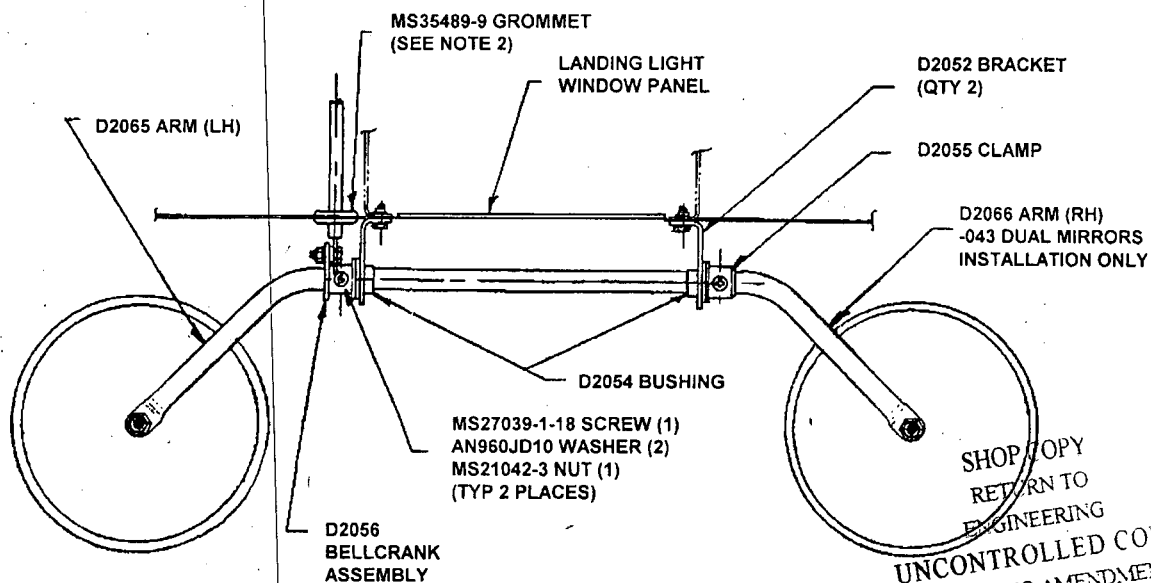


Figure 2: – View A: Looking Aft.
(D206-558-043 Mirror Shown)

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WORK ORDER
NO. 36581

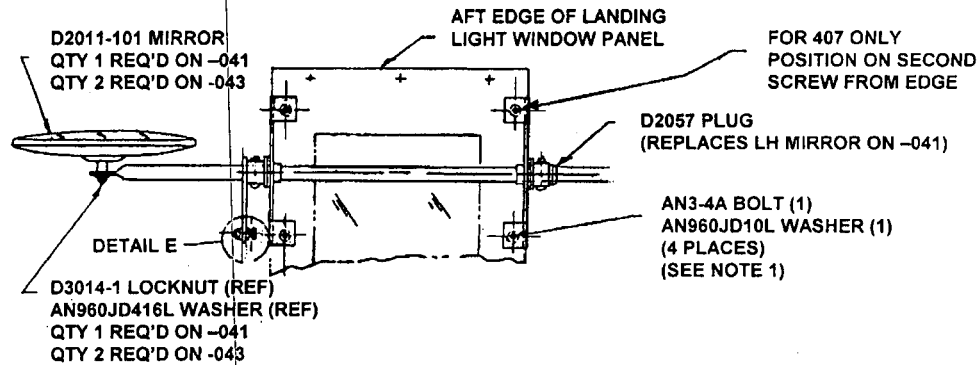


Figure 3: - View C: Looking Down on Mirror Installation
(D206-558-041 Mirror Shown)

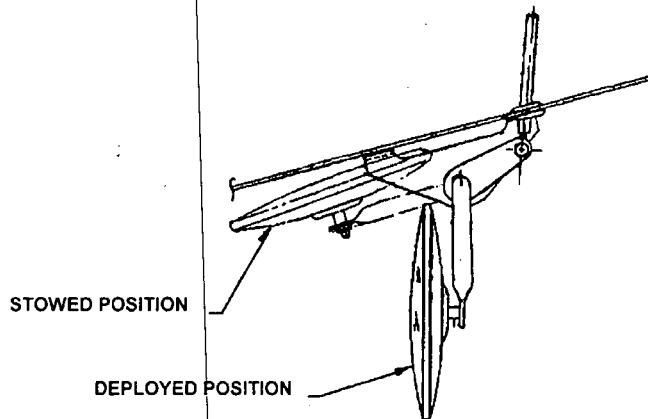


Figure 4: - Detail D: Looking from Side on Mirror Installation
(D206-558-041/-043 Mirror Shown)

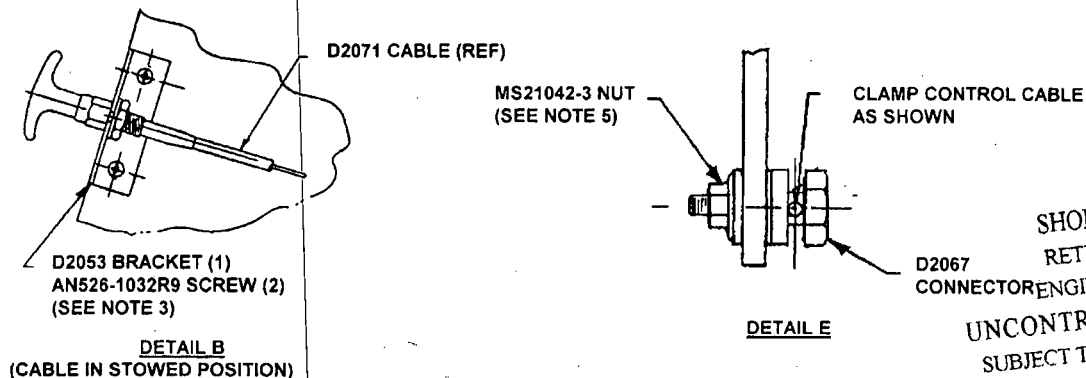


Figure 5: - Details B and E on Mirror Installation
(D206-558-041/-043 Mirror Shown)

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WORK ORDER
NO. 36587

4.0 WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D206-558-041 Bell 206A/B/L/L1/L3/L4 Bell 407	2.4 lb 1.09 Kg	+5.0 in +0.13 m	+12.0 in-lb +0.14 m-Kg	+14.8 in +0.38 m	+35.5 in-lb +0.41 m-Kg
D206-558-043 Bell 206A/B/L/L1/L3/L4 Bell 407	3.0 lb 1.36 Kg	0.0 in 0.0 m	0.0 in-lb 0.0 m-Kg	+14.8 in +0.38 m	+44.4 in-lb +0.52 m-Kg

5.0 WEIGHT AND BALANCE

Qty -041	Qty -043	Part Number	Description
X		D206-558-041	SINGLE CARGO MIRROR ASSEMBLY
	X	D206-558-043	DUAL CARGO MIRROR ASSEMBLY
1	2	D3014-1	* LOCKNUT
1	1	D2071	CABLE ASSEMBLY
2	2	D2054	BUSHING
1	1	D2067	CONNECTOR
	1	D2066	ARM
1		D2065	ARM
1		D2057	PLUG
1	1	D2056	BELLCRANK ASSEMBLY
1	1	D2055	CLAMP
1	1	D2053	BRACKET
2	2	D2052	BRACKET
1	2	D2011-101	MIRROR ASSEMBLY
4	4	AN3-4A	BOLT
4	4	AN526-1032R9	SCREW
1	2	AN960JD416L	* WASHER
4	4	AN960JD10	WASHER
6	6	AN960JD10L	WASHER
3	3	MS21042-3	NUT (or MS21042L3)
2	2	MS21919DG5	CLAMP
2	2	MS27039-1-18	SCREW
1	1	MS35489-9	GROMMET

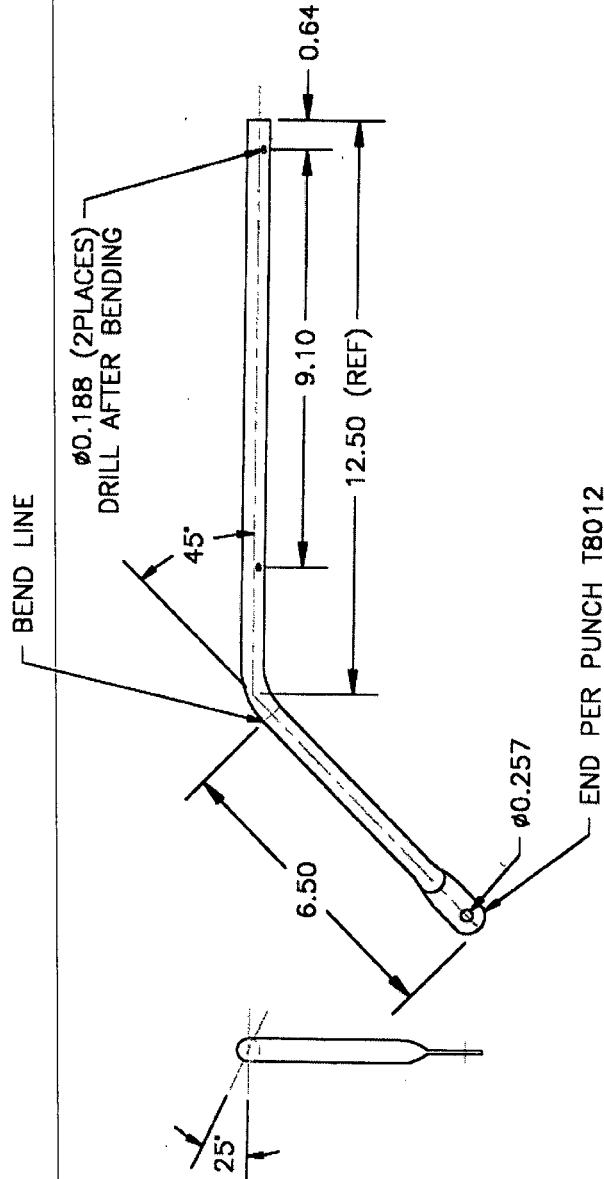
* INCLUDED AS PART OF D2011-101 MIRROR ASSEMBLY

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WORK ORDER
NO. 36587



DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
B WILLIAMS	B WILLIAMS	DRAWING NO.	REV. B
CHECKED	APPROVED	D2065	SHEET 1 OF 1
DATE	TITLE	ARM	SCALE
92.03.12	RE-DESIGN		1:4
B	96.02.06	ADD FINISH	
BI	02.03.25		

RELEASED
96/11/14 Bw



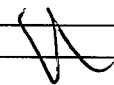
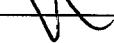
D2065 CUT LENGTH 19.5

MATERIAL: 304/316 SS 1/2 OD X 0.035 WALL
FINISH: POWDER COAT BLACK SANDTEX (4.3.5.F) PER
DART Q51 Q55 4.3 / 31

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WITHOUT NOTICE
WORK ORDER
NO. 36587

Date: Monday, 14/04/2008 12:53:52 PM
User: Linda Lacelle

Process Sheet

Customer : CC-DAR01 Dart Aerospace Ltd.	Drawing Name : D206-558-041
Job Number : 38580	
Estimate Number : 10804	
P.O. Number :	Part Number : D206558041
This Issue : 14/04/2008 S.O. No. :	Drawing Number : REWORK PER ECN1171
Prsht Rev. : NC	Project Number :
First Issue : / / Type : SMALL /MED FAB	Drawing Revision :
Previous Run : 00015	Material :
Written By : 	Due Date : 21/04/2008 Qty: 1 Um: Each
Checked & Approved By : 	
Comment :	

Additional Product

Job Number:



Seq. #: Machine Or Operation:

Description :

1.0 QC

QUALITY CONTROL



Comment: QUALITY CONTROL

Pull D206-558-041 from stock:

B 36587 Qty 8B 37304 Qty 1

B _____ Qty _____

Date: Monday, 14/04/2008 12:53:52 PM
User: Linda Lacelle

Process Sheet

Customer: CC-DAR01 Dart Aerospace Ltd.

Drawing Name: D206-558-041

Job Number: 38580

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

2.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Rework as per Eng approved re-work scheme on Dwg D2052.

See attached scheme

AS 080422

9

3.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Assemble to test fit on the 206 mock up air craft.

Results: *all fit good, material removed IAW Rework Scheme.*

AS 080422

9

4.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Touch up slots with alodine per QSI 005, and touch up holes with black paint.

AS 080422

9

5.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

080422 (+2)

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Re-packaged @ CHG0001.

D206-558-041 B *37304*

D206-558-041 B *37304*

D206-558-041 B *36587*

(K) (8x)

New labels required with the current batch #

JLD 084.22

Location: *42*

8/4/22 SP

(9)

Date: Monday, 14/04/2008 12:53:52 PM
User: Linda Lacelle

Process Sheet

Customer: CC-DAR01 Dart Aerospace Ltd.

Drawing Name: D206-558-041

Job Number: 38580

Part Number: D206558041

Job Number:



Seq. #:

Machine Or Operation:

Description :

7.0

QC21

FINAL INSPECTION/W/O RELEASE



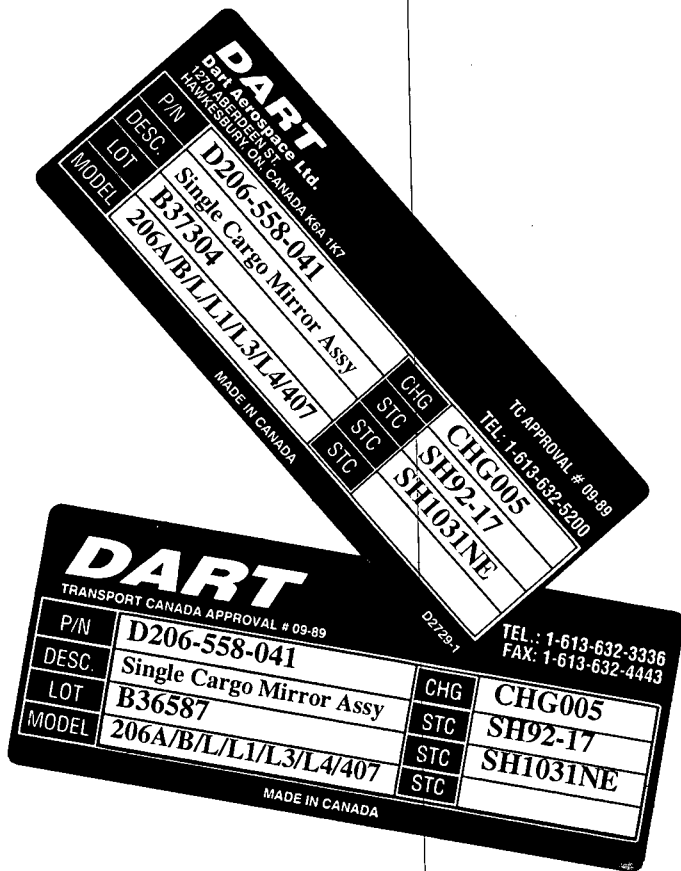
08/04/24

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



08-04-24



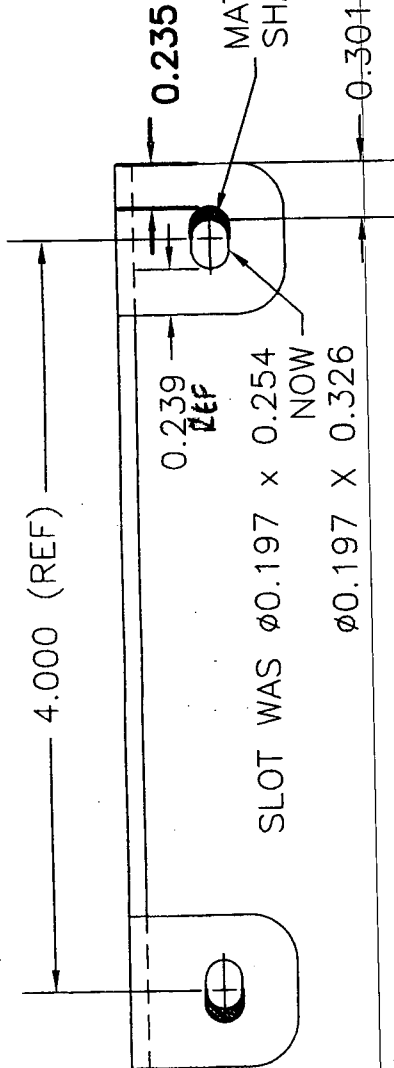
REF PAR03-012

RE-WORK SCHEME FOR D2052 CONTAINED IN
D205-553-041/-043 MIRRORS

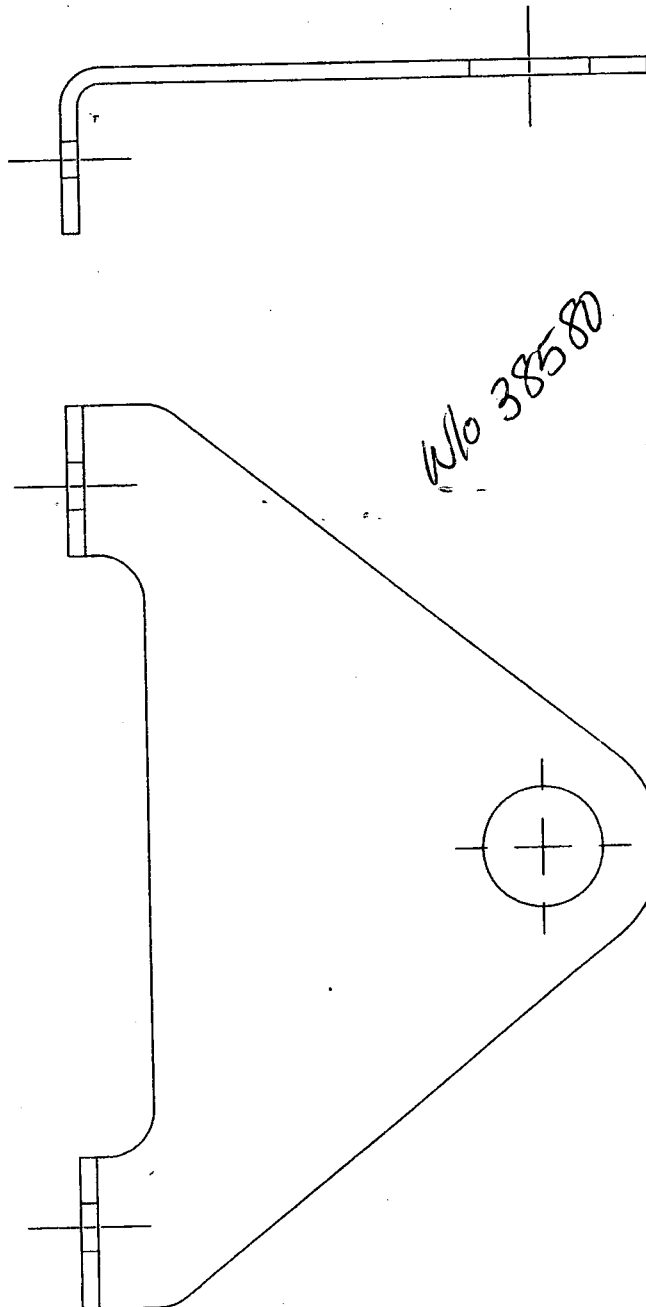
PA 01.04.10

DESIGN BW	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D2052	REV. C SHEET 1 OF 2
DATE 99.04.30	TITLE BRACKET		SCALE 1:1
A	92.01.12	NEW ISSUE	
B	97.02.21	ADD SLOT TO FOOT	
C	99.04.30	ADD FLAT PATTERN	

RE-WORK TO APPROX
0.235 AND/OR KEEP MIN, OF E/D = 1.5



REFERENCE ONLY



MATERIAL: 5052-H32 (QQ-A-250/8), 0.090 THICK
FINISH: POWDER COAT CRINKLE BLACK (4.3.5.3) PER DART QSI 005 4.3
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE IN INCHES